

East 7/15/04

L Number	Hits	Search Text	DB	Time stamp
-	24	("2826273" "2965074" "3053526" "3186702" "3618928" "3628638" "3658835" "3722804" "3782695" "3763971" "	US-PGPUB	2004/07/15 12:05:30 PM

-	149	("4478431" "5533871" "4407396" "4506869" "5178240" "5588510" "5600111" "5988606" "6079526" "3677561" "4132395" "4388972" "4474271" "4479638" "4480730" "4485899" "4503815" "4560041" "4610332" "4614255" "4782925" "4790522" "4809828" "4834088" "4846317" "4854429" "4867476" "4896752" "4923038" "4934347" "4949989" "4955460" "4961483" "4972928" "4984819" "4985009" "4995635" "5000478" "5016908" "5020825" "5025899" "5178242" "5207145" "5211268" "5217095" "5220983" "5261448" "5261450" "5284083" "5285875").pn. ("5293971" "5328004" "5337863" "5363945" "5398787" "5462141" "5494626" "5497862" "5509512" "5518089" "5518090" "5529152" "5570762" "5593007" "5605121" "5628496" "5657840" "5669418" "5690195" "5699885" "5706919" "5720369"	USPAT; US-PGPUB	2004/07/15 07:12
Search History 7/15/04 12:08:39 PM Page 2 C:\APPS\least\workspaces\10743359.wsp				

-	0	e05fr003/02.ipc.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 07:02
-	412	e05f003/02.ipc.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 07:03
-	128	e05f005/10.ipc.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 07:03
-	37	e05f005/10.ipc. and (air or pneumatic)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 07:15
-	1	("5157806").PN.	USPAT; US-PGPUB	2004/07/15 07:07
-	14	5157806.URPN.	USPAT	2004/07/15 07:07
-	4	("3266080"   "4230309"   "4854554"   "4920609").PN.	USPAT	2004/07/15 07:08

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Search History 7/15/04 12:08:38 PM Page 4		C:\APPS\east\workspaces\10743359.wsp		

-	450	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber) with (serially or series)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 07:17
-	1	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber) with (serially or series) and 312/\$.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 07:18
-	1	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder or brake) with (serially or series) and 312/\$.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 07:19
-	104	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder or brake) and 312/\$.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 07:20
-	1215	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder or brake) same (pistons! or first adj2 piston same second adj2 piston)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 07:25
-	0	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder or brake) same (pistons! or first adj2 piston same second adj2 piston) same progressive adj damp\$6	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 07:22
-	75	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder or brake) same (pistons! or first adj2 piston same second adj2 piston) same piston with (throughbore or bore or borehole or canal)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 07:24
-	13	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder) same (pistons! or first adj2 piston same second adj2 piston) same piston with (throughbore or bore or borehole or canal)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 07:24
-	419	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder or brake) same (pistons! or first adj2 piston same second adj2 piston) same spring	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 07:25
-	230	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder or brake) same (pistons! or first adj2 piston same second adj2 piston) same spring near5 piston	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 07:26
-	230	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder or brake) same (pistons! or first adj2 piston same second adj2 piston) same spring near5 piston	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 07:26
-	33	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder) same (pistons! or first adj2 piston same second adj2 piston) same spring near5 piston	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 07:37
-	7	5220706.URPN.	USPAT	2004/07/15 07:30
-	2879	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder) same piston	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 09:14
-	591	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder) with piston with (rod or shaft)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 07:42
-	1003	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder) same piston with (rod or shaft)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 11:16
-	27	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder) same piston with (rod or shaft) and (two or pair or series or serially or dual) adj3 pistons!	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 07:50

-	27	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder) same piston with (rod or shaft) and (two or pair or dual or series or serially or dual) adj3 pistons!	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 07:51
-	7	(air or pneumatic) and 188/283.ccls.	USPAT; US-PGPUB	2004/07/15 07:53
-	12	(air or pneumatic) and 188/283.ccls.	USOCR	2004/07/15 07:54
-	59	(188/301).CCLS.	USPAT; US-PGPUB	2004/07/15 08:39
-	8	4776440.URPN.	USPAT	2004/07/15 08:23
-	6	("0334105"   "1254106"   "1744514"   "3218849"   "3307842"   "3531065").PN.	USPAT	2004/07/15 08:35
-	2879	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder) same piston	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 08:49
-	9	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder) same piston and 267/225-226.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 08:41
-	258	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder) same piston and 267/\$.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 08:42
-	235	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder) same piston and 188/\$.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 08:42
-	235	((air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder) same piston and 188/\$.ccls.) not 5.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 08:47
-	1064	188/316-317.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 08:47
-	20	188/316-317.ccls. and ((air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder) same piston )	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 08:47
-	5	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder) same piston and 188/279,286-287.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 08:48
-	17	16/66,84.ccls. and pistons!	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 08:49
-	5	4693454.URPN.	USPAT	2004/07/15 08:51
-	18	("Re16582"   "0935525"   "1310199"   "1834671"   "2015757"   "2416316"   "2574314"   "2940111"   "3042957"   "3147967"   "3201110"   "3358318"   "3550733"   "3584331"   "3768793"   "3991863"   "4044865"   "4307875").PN.	USPAT	2004/07/15 08:52
-	18	3147967.URPN.	USPAT	2004/07/15 08:53
-	5	4693454.URPN.	USPAT	2004/07/15 08:54
-	7	5558190.URPN.	USPAT	2004/07/15 08:54
-	14	("1313763"   "2354340"   "3107753"   "3174343"   "3207270"   "3260515"   "3944221"   "4133415"   "4164274"   "4693454"   "4700611"   "4880230"   "5069317"   "5220206").PN.	USPAT	2004/07/15 08:55
-	21	4500075.URPN.	USPAT	2004/07/15 08:56
-	8	("2276338"   "2298542"   "2586442"   "2618365"   "3010433"   "3220046"   "3369323"   "3872541").PN.	USPAT	2004/07/15 09:00
-	10	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder) same piston and 312/\$.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 09:23

-	613	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder) same piston and f16f\$.ipc.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 09:26
-	0	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder) same piston and f16f9/02.ipc.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 09:24
-	118	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder) same piston and f16f009/02.ipc.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 11:00
-	3927	A47B088/16.ipc. or A47B097/00.ipc.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 09:26
-	1	((air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder) same piston and f16f\$.ipc.) and ( A47B088/16.ipc. or A47B097/00.ipc. )	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 09:26
-	9	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder) same piston same furniture	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 09:27
-	5	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder) same pistons! and f16f009/02.ipc.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 09:51
-	118	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder) same piston and f16f009/02.ipc.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 09:51
-	0	2625757.URPN.	USPAT	2004/07/15 10:54
-	15	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder) same piston with (rod or shaft) and 16/66,84.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 11:17
-	5	(air or pneumatic) with (damper or dampener or dashpot or vibration or shock adj aborber or retarder) same piston with (rod or shaft) and 16/66,84.ccls.	USOCR	2004/07/15 11:18
-	480	16/66,84.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 11:18
-	26	16/66,84.ccls. not 16/66,84.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/07/15 11:18
-	454	16/66,84.ccls.	USPAT; US-PGPUB	2004/07/15 11:19

7LUS 7/15/04

**Butler, Douglas**

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**From:** PLUS  
**Sent:** Tuesday, April 27, 2004 8:51 AM  
**To:** Butler, Douglas  
**Subject:** PLUS Results for 10743359

Here are the PLUS search results for 10743359.

This search was prepared by the staff of the Scientific and Technical Information Center, SIRA. If you have questions or comments about this search, please reply via email to PLUS@uspto.gov.



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## 10743359\_LIST

PLUS Search Results for S/N 10743359, Searched April 27, 2004

The Patent Linguistics Utility System (PLUS) is a USPTO automated search system for U.S. Patents from 1971 to the present. PLUS is a query-by-example search system which produces a list of patents that are most closely related linguistically to the application searched. This search was prepared by the staff of the Scientific and Technical Information Center, SIRA.

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Most Frequently Occurring Classifications of Patents Returned  
From A Search of 10743359 on April 27, 2004

Original Classifications

6	188/266.6
5	188/275
5	188/280
4	188/282.5
4	188/315
4	188/322.15
3	188/266.2
3	188/266.5
3	188/269
3	188/281
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3	267/64.17
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2	91/433
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2	123/90.17
2	173/162.1
2	188/266.1
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2	188/322.13
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Cross-Reference Classifications

21	188/315
18	188/322.15
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2 280/124.159  
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2 280/5.513  
2 280/6.159

10743359\_CLS

2 310/30  
2 417/312  
2 417/417



## 10743359\_CLSTITLES

Titles of Most Frequently Occurring Classifications of Patents Returned  
From A Search of 10743359 on April 27, 2004

25 188/315 (4 OR, 21 XR)  
Class 188 : BRAKES  
188/266 INTERNAL-RESISTANCE MOTION RETARDER  
188/297 .Having a thrust member with a variable volume  
chamber (e.g., coaxial or telescoping tubes, compensat  
ing  
reservoir)  
188/313 ..With valve controlling fluid flow between  
chambers or compartments of the chamber  
188/314 ...With reservoir for fluid  
188/315 ....Annular reservoir

22 188/322.15 (4 OR, 18 XR)  
Class 188 : BRAKES  
188/266 INTERNAL-RESISTANCE MOTION RETARDER  
188/322.13 .Valve structure or location  
188/322.15 ..Piston valve detail (e.g., seat design,  
structural arrangement, metering element)

12 188/317 (2 OR, 10 XR)  
Class 188 : BRAKES  
188/266 INTERNAL-RESISTANCE MOTION RETARDER  
188/297 .Having a thrust member with a variable volume  
chamber (e.g., coaxial or telescoping tubes, compensati  
ng  
reservoir)  
188/316 ..Fluid through or around piston within chamber  
188/317 ...Via fixed or variable orifice in piston

11 188/322.13 (2 OR, 9 XR)  
Class 188 : BRAKES  
188/266 INTERNAL-RESISTANCE MOTION RETARDER  
188/322.13 .Valve structure or location

10 188/280 (5 OR, 5 XR)  
Class 188 : BRAKES  
188/266 INTERNAL-RESISTANCE MOTION RETARDER  
188/280 .Relative speed of thrust member or fluid flow

10 188/322.14 (2 OR, 8 XR)  
Class 188 : BRAKES  
188/266 INTERNAL-RESISTANCE MOTION RETARDER  
188/322.13 .Valve structure or location  
188/322.14 ..Foot valve

8 188/266.6 (6 OR, 2 XR)  
Class 188 : BRAKES  
188/266 INTERNAL-RESISTANCE MOTION RETARDER  
188/266.1 .Motion damped from condition (e.g., bump,  
speed change) detected outside of retarder  
188/266.2 ..Condition actuates valve or regulator  
188/266.5 ...Of the pulsating or reciprocating type  
188/266.6 ....Side mounted

# 10743359\_CLSTITLES

- 8 188/269 (3 OR, 5 XR)  
 Class 188 : BRAKES  
 188/266 INTERNAL-RESISTANCE MOTION RETARDER  
 188/269 .Using diverse fluids
- 8 188/282.5 (4 OR, 4 XR)  
 Class 188 : BRAKES  
 188/266 INTERNAL-RESISTANCE MOTION RETARDER  
 188/281 .Resistance alters relative to direction of  
 thrust member (e.g., high resistance in one direction,  
 low in the other)  
 188/282.1 ..Via valved orifice in thrust member  
 188/282.5 ...Flexible flap-type valve (e.g., compression  
 washers)
- 8 188/314 (0 OR, 8 XR)  
 Class 188 : BRAKES  
 188/266 INTERNAL-RESISTANCE MOTION RETARDER  
 188/297 .Having a thrust member with a variable volume  
 chamber (e.g., coaxial or telescoping tubes, compensati  
 ng reservoir)  
 188/313 ..With valve controlling fluid flow between  
 chambers or compartments of the chamber  
 188/314 ...With reservoir for fluid
- 8 188/318 (3 OR, 5 XR)  
 Class 188 : BRAKES  
 188/266 INTERNAL-RESISTANCE MOTION RETARDER  
 188/297 .Having a thrust member with a variable volume  
 chamber (e.g., coaxial or telescoping tubes, compensat  
 ing reservoir)  
 188/316 ..Fluid through or around piston within chamber  
 188/317 ...Via fixed or variable orifice in piston  
 188/318 ....And passage venting fluid external to  
 chamber
- 7 188/266.2 (3 OR, 4 XR)  
 Class 188 : BRAKES  
 188/266 INTERNAL-RESISTANCE MOTION RETARDER  
 188/266.1 .Motion damped from condition (e.g., bump,  
 speed change) detected outside of retarder  
 188/266.2 ..Condition actuates valve or regulator
- 7 188/322.17 (0 OR, 7 XR)  
 Class 188 : BRAKES  
 188/266 INTERNAL-RESISTANCE MOTION RETARDER  
 188/322.16 .Including seal or guide  
 188/322.17 ..Between piston rod and cylinder
- 6 188/266.4 (2 OR, 4 XR)  
 Class 188 : BRAKES  
 188/266 INTERNAL-RESISTANCE MOTION RETARDER  
 188/266.1 .Motion damped from condition (e.g., bump,  
 speed change) detected outside of retarder

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188/266.2    ...Condition actuates valve or regulator
188/266.3    ...Of the rotary type
188/266.4    ....Having plural openings

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- Page 3

10743359\_CLSTITLES  
slot, etc.

- 5 188/322.19 (2 OR, 3 XR)  
Class 188 : BRAKES  
188/266 INTERNAL-RESISTANCE MOTION RETARDER  
188/322.19 .Cylinder structure
- 5 188/322.22 (0 OR, 5 XR)  
Class 188 : BRAKES  
188/266 INTERNAL-RESISTANCE MOTION RETARDER  
188/322.22 .Thrust member or piston structure
- 5 267/64.11 (2 OR, 3 XR)  
Class 267 : SPRING DEVICES  
267/2 VEHICLE  
267/64.11 .Comprising compressible fluid
- 5 267/64.25 (0 OR, 5 XR)  
Class 267 : SPRING DEVICES  
267/2 VEHICLE  
267/64.11 .Comprising compressible fluid  
267/64.15 ..With retarder  
267/64.25 ...Having plural compressible fluid springs
- 4 188/266.7 (2 OR, 2 XR)  
Class 188 : BRAKES  
188/266 INTERNAL-RESISTANCE MOTION RETARDER  
188/266.7 .Piezoelectric
- 4 188/282.8 (2 OR, 2 XR)  
Class 188 : BRAKES  
188/266 INTERNAL-RESISTANCE MOTION RETARDER  
188/281 .Resistance alters relative to direction of  
thrust member (e.g., high resistance in one direction,  
low in the other)  
188/282.1 ..Via valved orifice in thrust member  
188/282.8 ...Spring-loaded valve
- 4 188/319.1 (1 OR, 3 XR)  
Class 188 : BRAKES  
188/266 INTERNAL-RESISTANCE MOTION RETARDER  
188/297 .Having a thrust member with a variable volume  
chamber (e.g., coaxial or telescoping tubes, compensat  
ing reservoir)  
188/316 ..Fluid through or around piston within chamber  
188/317 ...Via fixed or variable orifice in piston  
188/319.1 ....Having an orifice adjustment for both  
jounce or bound (compression) and rebound
- 4 267/225 (1 OR, 3 XR)  
Class 267 : SPRING DEVICES  
267/2 VEHICLE  
267/195 .Mechanical spring and nonresilient retarder  
(e.g., shock absorber)  
267/217 ..Fluid retarder  
267/221 ...Helical coil spring

## 10743359\_CLSTITLES

- 267/225 ....Plural mechanical springs for biasing  
vehicle parts
- 4 267/64.23 (1 OR, 3 XR)  
Class 267 : SPRING DEVICES  
267/2 VEHICLE  
267/64.11 .Comprising compressible fluid  
267/64.15 ..With retarder  
267/64.23 ...Having flexible wall
- 4 280/276 (3 OR, 1 XR)  
Class 280 : LAND VEHICLES  
280/29 WHEELED  
280/200 .Occupant propelled type  
280/263 ..With steering  
280/270 ...One-wheel controlled  
280/274 ....Frames and running gear  
280/275 .....Yielding  
280/276 .....Front forks and heads
- 4 280/5.507 (1 OR, 3 XR)  
Class 280 : LAND VEHICLES  
280/5.5 SUSPENSION MODIFICATION ENACTED DURING TRAVEL  
(I.E., ACTIVE SUSPENSION CONTROL)  
280/5.507 .Lateral and longitudinal vehicle attitude  
control (e.g., combinations of antidive, antipitch,  
antiroll, antisquat, antiway, antiyaw, riding, or  
suspension height)
- 4 280/5.515 (3 OR, 1 XR)  
Class 280 : LAND VEHICLES  
280/5.5 SUSPENSION MODIFICATION ENACTED DURING TRAVEL  
(I.E., ACTIVE SUSPENSION CONTROL)  
280/5.515 .Suspension stiffness for ride comfort (e.g.,  
damping coefficient, spring rate)
- 4 417/540 (2 OR, 2 XR)  
Class 417 : PUMPS  
417/437 EXPANSIBLE CHAMBER TYPE  
417/540 .Having pulsation dampening fluid receiving  
space
- 4 701/37 (1 OR, 3 XR)  
Class 701 : DATA PROCESSING: VEHICLES, NAVIGATION, AND  
RELATIVE LOCATION  
701/1 VEHICLE CONTROL, GUIDANCE, OPERATION, OR  
INDICATION  
701/36 .Vehicle subsystem or accessory control  
701/37 ..Suspension control
- 3 188/266.1 (2 OR, 1 XR)  
Class 188 : BRAKES  
188/266 INTERNAL-RESISTANCE MOTION RETARDER  
188/266.1 .Motion damped from condition (e.g., bump,  
speed change) detected outside of retarder
- 3 188/282.4 (0 OR, 3 XR)  
Class 188 : BRAKES  
188/266 INTERNAL-RESISTANCE MOTION RETARDER

## 10743359\_CLSTITLES

low 188/281 .Resistance alters relative to direction of thrust member (e.g., high resistance in one direction, in the other)

188/282.1 ..Via valved orifice in thrust member

188/282.2 ...Valve actuated by electrical system

188/282.4 ....System having distinct selections (e.g., hard, medium, soft)

3 188/284 (1 OR, 2 XR)  
Class 188 : BRAKES  
188/266 INTERNAL-RESISTANCE MOTION RETARDER  
188/284 .Position of thrust member relative to chamber

3 188/285 (1 OR, 2 XR)  
Class 188 : BRAKES  
188/266 INTERNAL-RESISTANCE MOTION RETARDER  
188/284 .Position of thrust member relative to chamber

188/285 ..Having a fluid flow passage adjusted manually (e.g., threaded plug, threaded rod, gearing)

3 188/298 (1 OR, 2 XR)  
Class 188 : BRAKES  
188/266 INTERNAL-RESISTANCE MOTION RETARDER  
188/297 .Having a thrust member with a variable volume chamber (e.g., coaxial or telescoping tubes, compensatin  
g reservoir)  
188/298 ..Forming flexible wall enclosure for fluid

3 188/313 (0 OR, 3 XR)  
Class 188 : BRAKES  
188/266 INTERNAL-RESISTANCE MOTION RETARDER  
188/297 .Having a thrust member with a variable volume chamber (e.g., coaxial or telescoping tubes, compensatin  
g reservoir)  
188/313 ..With valve controlling fluid flow between chambers or compartments of the chamber

3 188/316 (1 OR, 2 XR)  
Class 188 : BRAKES  
188/266 INTERNAL-RESISTANCE MOTION RETARDER  
188/297 .Having a thrust member with a variable volume chamber (e.g., coaxial or telescoping tubes, compensatin  
g reservoir)  
188/316 ..Fluid through or around piston within chamber

3 267/64.16 (0 OR, 3 XR)  
Class 267 : SPRING DEVICES  
267/2 VEHICLE  
267/64.11 .Comprising compressible fluid  
267/64.15 ..With retarder  
267/64.16 ...Leveling device

## 10743359\_CLSTITLES

- 3 267/64.17 (3 OR, 0 XR)  
 Class 267 : SPRING DEVICES  
 267/2 VEHICLE  
 267/64.11 .Comprising compressible fluid  
 267/64.15 ..With retarder  
 267/64.16 ...Leveling device  
 267/64.17 ....Self-pumping
- 3 280/124.157 (1 OR, 2 XR)  
 Class 280 : LAND VEHICLES  
 280/29 WHEELED  
 280/80.1 .Running gear  
 280/124.1 ..Suspension arrangement  
 280/124.157 ...Fluidic suspension
- 3 280/5.519 (1 OR, 2 XR)  
 Class 280 : LAND VEHICLES  
 280/5.5 SUSPENSION MODIFICATION ENACTED DURING TRAVEL  
 (I.E., ACTIVE SUSPENSION CONTROL)  
 280/5.515 .Suspension stiffness for ride comfort (e.g.,  
 damping coefficient, spring rate)  
 280/5.519 ..Plural distinct modes (i.e., HARD-SOFT)
- 3 417/269 (3 OR, 0 XR)  
 Class 417 : PUMPS  
 417/269 THREE OR MORE CYLINDERS ARRANGED IN PARALLEL,  
 RADIAL, OR CONICAL RELATIONSHIP WITH ROTARY TRANSMISSION  
 AXIS
- 2 91/433 (2 OR, 0 XR)  
 Class 091 : MOTORS: EXPANSIBLE CHAMBER TYPE  
 91/418 WITH MOTIVE FLUID VALVE  
 91/433 .Both inlet and exhaust controlled by motive  
 fluid pressure in supply line or chamber
- 2 92/85B (1 OR, 1 XR)  
 Class 092 : EXPANSIBLE CHAMBER DEVICES  
 92/85R WITH CUSHIONING MEANS EFFECTIVE OVER A PORTION  
 ONLY OF STROKE  
 92/85B .Fluid spring
- 2 105/198.3 (2 OR, 0 XR)  
 Class 105 : RAILWAY ROLLING STOCK  
 105/157.1 TRUCKS  
 105/182.1 .Bogie  
 105/197.05 ..Sprung bolster  
 105/198.2 ...Bolster movement dampened by snubber  
 105/198.3 ....Hydraulic damping
- 2 123/90.17 (2 OR, 0 XR)  
 Class 123 : INTERNAL-COMBUSTION ENGINES  
 123/90.1 POPPET VALVE OPERATING MECHANISM  
 123/90.15 .With means for varying timing  
 123/90.17 ..Camshaft or cam characteristics
- 2 123/90.31 (0 OR, 2 XR)  
 Class 123 : INTERNAL-COMBUSTION ENGINES  
 123/90.1 POPPET VALVE OPERATING MECHANISM  
 123/90.31 .Camshaft drive means

10743359\_CLSTITLES

- 2 173/162.1 (2 OR, 0 XR)  
 Class 173 : TOOL DRIVING OR IMPACTING  
 173/162.1 INCLUDING MEANS TO VIBRATIONALLY ISOLATE A  
 DRIVE MEANS FROM ITS HOLDER
- 2 180/300 (1 OR, 1 XR)  
 Class 180 : MOTOR VEHICLES  
 180/54.1 POWER  
 180/291 .Having specific motor-to-body-frame  
 relationship  
 180/300 ..Including means of nonsupporting nature for  
 minimizing operation-induced movement of motor
- 2 181/403 (0 OR, 2 XR)  
 Class 181 : ACOUSTICS  
 181/403 REFRIGERATOR COMPRESSOR MUFFLER
- 2 188/266.8 (0 OR, 2 XR)  
 Class 188 : BRAKES  
 188/266 INTERNAL-RESISTANCE MOTION RETARDER  
 188/266.8 .With failure or malfunction detection
- 2 188/267.1 (0 OR, 2 XR)  
 Class 188 : BRAKES  
 188/266 INTERNAL-RESISTANCE MOTION RETARDER  
 188/267.1 .Electroviscous or electrorheological fluid
- 2 188/277 (2 OR, 0 XR)  
 Class 188 : BRAKES  
 188/266 INTERNAL-RESISTANCE MOTION RETARDER  
 188/276 .With means compensating for change in  
 temperature or viscosity  
 188/277 ..Thermostatic valve type
- 2 188/282.1 (2 OR, 0 XR)  
 Class 188 : BRAKES  
 188/266 INTERNAL-RESISTANCE MOTION RETARDER  
 188/281 .Resistance alters relative to direction of  
 thrust member (e.g., high resistance in one direction, 1  
 ow in the other)  
 188/282.1 ..Via valved orifice in thrust member
- 2 188/282.3 (2 OR, 0 XR)  
 Class 188 : BRAKES  
 188/266 INTERNAL-RESISTANCE MOTION RETARDER  
 188/281 .Resistance alters relative to direction of  
 thrust member (e.g., high resistance in one direction,  
 low in the other)  
 188/282.1 ..Via valved orifice in thrust member  
 188/282.2 ...Valve actuated by electrical system  
 188/282.3 ....System initiated by a pressure change or  
 feedback
- 2 188/282.9 (0 OR, 2 XR)  
 Class 188 : BRAKES  
 188/266 INTERNAL-RESISTANCE MOTION RETARDER



## 10743359\_CLSTITLES

low 188/281 .Resistance alters relative to direction of thrust member (e.g., high resistance in one direction, in the other)

188/282.1 ..Via valved orifice in thrust member

188/282.8 ...Spring-loaded valve

188/282.9 ....Adjusting the tension via (a) compressing or expanding or (b) different strength springs

2 188/299.1 (1 OR, 1 XR)  
Class 188 : BRAKES  
188/266 INTERNAL-RESISTANCE MOTION RETARDER  
188/299.1 .Controlled by an operator (e.g., vehicle driver) remote from retarder

ing 2 188/319.2 (0 OR, 2 XR)  
Class 188 : BRAKES  
188/266 INTERNAL-RESISTANCE MOTION RETARDER  
188/297 .Having a thrust member with a variable volume chamber (e.g., coaxial or telescoping tubes, compensat reservoir)  
188/316 ..Fluid through or around piston within chamber  
188/317 ...Via fixed or variable orifice in piston  
188/319.2 ....Orifice size varied using a hand or hand tool

ing 2 188/320 (0 OR, 2 XR)  
Class 188 : BRAKES  
188/266 INTERNAL-RESISTANCE MOTION RETARDER  
188/297 .Having a thrust member with a variable volume chamber (e.g., coaxial or telescoping tubes, compensat reservoir)  
188/316 ..Fluid through or around piston within chamber  
188/317 ...Via fixed or variable orifice in piston  
188/320 ....Tortuous path orifice

2 267/122 (0 OR, 2 XR)  
Class 267 : SPRING DEVICES  
267/113 FLUID  
267/118 .Expansible-contractible chamber device  
267/122 ..Diaphragm or bellows

2 267/124 (0 OR, 2 XR)  
Class 267 : SPRING DEVICES  
267/113 FLUID  
267/118 .Expansible-contractible chamber device  
267/124 ..Piston

2 267/127 (0 OR, 2 XR)  
Class 267 : SPRING DEVICES  
267/113 FLUID  
267/118 .Expansible-contractible chamber device  
267/124 ..Piston  
267/126 ...System  
267/127 ....Trans-piston passage

## 10743359\_CLSTITLES

- 2 267/221 (0 OR, 2 XR)  
     Class 267 : SPRING DEVICES  
     267/2 VEHICLE  
     267/195 .Mechanical spring and nonresilient retarder  
             (e.g., shock absorber)  
     267/217 ..Fluid retarder  
     267/221 ...Helical coil spring
- 2 267/4 (0 OR, 2 XR)  
     Class 267 : SPRING DEVICES  
     267/2 VEHICLE  
     267/3 .Railway  
     267/4 ..Coil
- 2 267/64.21 (1 OR, 1 XR)  
     Class 267 : SPRING DEVICES  
     267/2 VEHICLE  
     267/64.11 .Comprising compressible fluid  
     267/64.15 ..With retarder  
     267/64.16 ...Leveling device  
     267/64.19 ....Having flexible wall  
     267/64.21 .....Including rolling lobe between telescoping  
                     members
- 2 267/64.27 (0 OR, 2 XR)  
     Class 267 : SPRING DEVICES  
     267/2 VEHICLE  
     267/64.11 .Comprising compressible fluid  
     267/64.27 ..Having flexible wall
- 2 267/64.28 (0 OR, 2 XR)  
     Class 267 : SPRING DEVICES  
     267/2 VEHICLE  
     267/64.11 .Comprising compressible fluid  
     267/64.28 ..Including means for charging or discharging  
                     spring
- 2 280/124.159 (0 OR, 2 XR)  
     Class 280 : LAND VEHICLES  
     280/29 WHEELED  
     280/80.1 .Running gear  
     280/124.1 ..Suspension arrangement  
     280/124.157 ...Fluidic suspension  
     280/124.158 ....Hydraulic and pneumatic  
     280/124.159 .....Fluid handling details
- 2 280/124.16 (0 OR, 2 XR)  
     Class 280 : LAND VEHICLES  
     280/29 WHEELED  
     280/80.1 .Running gear  
     280/124.1 ..Suspension arrangement  
     280/124.157 ...Fluidic suspension  
     280/124.16 ....Fluid handling details
- 2 280/5.513 (1 OR, 1 XR)  
     Class 280 : LAND VEHICLES  
     280/5.5 SUSPENSION MODIFICATION ENACTED DURING TRAVEL  
             (I.E., ACTIVE SUSPENSION CONTROL)

10743359 CLSTITLES

- 280/5.513 .Longitudinal vehicle disposition (e.g.,  
antidive, antipitch, antisquat)
  
- 2 280/6.159 (2 OR, 0 XR)  
 Class 280 : LAND VEHICLES  
 280/6.15 BODY ELEVATION OR TILT  
 280/6.157 .Establishing riding or trim height  
 280/6.159 ...Load responsive
  
- 2 310/30 (1 OR, 1 XR)  
 Class 310 : ELECTRICAL GENERATOR OR MOTOR STRUCTURE  
 310/10 DYNAMOELECTRIC  
 310/15 .Reciprocating  
 310/28 ..Direct-connected  
 310/30 ...Solenoid and core
  
- 2 417/312 (1 OR, 1 XR)  
 Class 417 : PUMPS  
 417/312 WITH MUFFLER ACTING ON PUMP FLUID
  
- 2 417/417 (1 OR, 1 XR)  
 Class 417 : PUMPS  
 417/321 MOTOR DRIVEN  
 417/410.1 .Electric or magnetic motor  
 417/415 ..Reciprocating rigid pumping member  
 417/416 ...Reciprocating motor  
 417/417 ....Unitary pump and motor working member

10743359\_CLS

Most Frequently Occurring Classifications of Patents Returned  
From A Search of 10743359 on April 27, 2004

Original Classifications

6 188/266.6  
5 188/275  
5 188/280  
4 188/282.5  
4 188/315  
4 188/322.15  
3 188/266.2  
3 188/266.5  
3 188/269  
3 188/281  
3 188/318  
3 267/64.17  
3 280/276  
3 280/5.515  
3 417/269  
2 91/433  
2 105/198.3  
2 123/90.17  
2 173/162.1  
2 188/266.1  
2 188/266.4  
2 188/266.7  
2 188/277  
2 188/282.1  
2 188/282.3  
2 188/282.6  
2 188/282.8  
2 188/317  
2 188/322.13  
2 188/322.14  
2 188/322.19  
2 267/64.11  
2 267/64.15  
2 280/6.159  
2 417/540

Cross-Reference Classifications

21 188/315  
18 188/322.15  
10 188/317  
9 188/322.13  
8 188/314  
8 188/322.14  
7 188/322.17  
6 267/64.26  
5 188/269  
5 188/280  
5 188/318  
5 188/322.22  
5 267/226  
5 267/64.25  
4 188/266.2  
4 188/266.4  
4 188/282.5

10743359\_CLS

4 267/64.15  
3 188/266.5  
3 188/282.4  
3 188/282.6  
3 188/313  
3 188/319.1  
3 188/322.19  
3 267/225  
3 267/64.11  
3 267/64.16  
3 267/64.23  
3 280/5.507  
3 701/37  
2 123/90.31  
2 181/403  
2 188/266.6  
2 188/266.7  
2 188/266.8  
2 188/267.1  
2 188/281  
2 188/282.8  
2 188/282.9  
2 188/284  
2 188/285  
2 188/298  
2 188/316  
2 188/319.2  
2 188/320  
2 267/122  
2 267/124  
2 267/127  
2 267/221  
2 267/4  
2 267/64.27  
2 267/64.28  
2 280/124.157  
2 280/124.159  
2 280/124.16  
2 280/5.519  
2 417/540

#### Combined Classifications

25 188/315  
22 188/322.15  
12 188/317  
11 188/322.13  
10 188/280  
10 188/322.14  
8 188/266.6  
8 188/269  
8 188/282.5  
8 188/314  
8 188/318  
7 188/266.2  
7 188/322.17  
6 188/266.4  
6 188/266.5  
6 267/226  
6 267/64.15

6 267/64.26  
5 188/275  
5 188/281  
5 188/282.6  
5 188/322.19  
5 188/322.22  
5 267/64.11  
5 267/64.25  
4 188/266.7  
4 188/282.8  
4 188/319.1  
4 267/225  
4 267/64.23  
4 280/276  
4 280/5.507  
4 280/5.515  
4 417/540  
4 701/37  
3 188/266.1  
3 188/282.4  
3 188/284  
3 188/285  
3 188/298  
3 188/313  
3 188/316  
3 267/64.16  
3 267/64.17  
3 280/124.157  
3 280/5.519  
3 417/269  
2 91/433  
2 92/85B  
2 105/198.3  
2 123/90.17  
2 123/90.31  
2 173/162.1  
2 180/300  
2 181/403  
2 188/266.8  
2 188/267.1  
2 188/277  
2 188/282.1  
2 188/282.3  
2 188/282.9  
2 188/299.1  
2 188/319.2  
2 188/320  
2 267/122  
2 267/124  
2 267/127  
2 267/221  
2 267/4  
2 267/64.21  
2 267/64.27  
2 267/64.28  
2 280/124.159  
2 280/124.16  
2 280/5.513  
2 280/6.159

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10743359\_CLS

2 310/30  
2 417/312  
2 417/417